UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,478	01/18/2001	Sudhir Bhasin	P4860/06145.012001	9884

32615	7590	05/17/2004

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EXAMINER
DOOLEY, MATTHEW C

ART UNIT	PAPER NUMBER
2133	10

DATE MAILED: 05/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>28 April 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>18 January 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Applicant's arguments, coupled with the amendments to claims 1, 8, and 14, filed as part

of the RCE received 04/28/04, with respect to the prior rejection(s)of claim(s) 1-20 have been

fully considered and are persuasive. Therefore, the prior rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of

Allingham, U.S. 5,937,182.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Allingham, U.S.

5,937,182.

As per claim 1:

Allingham teaches to a hardware verification method that includes obtaining a set

of packets to be driven by a DUT, starting multiple drive loops that force the obtained

packets into the DUT, utilizing multiple expect loops wherein each expect loop

determines when a packet is expected to arrive as well as picking up said packet, and

checking for all loops if the expected packet arrives within a specified time period and

raising a flag if the expected packet does not arrive within the expected time period

(Fig.2; Fig.3; Col.4: 26-29, 40-42, 46-68; Col.5: 7-67). Moreover, Allingham teaches

specifically to obtaining timing criteria dependent on how long it should take to transmit

a packet (Col.2: 52-62). Allingham also suggests obtaining a set of timing and relation

criteria which determines a sequence in which the packets should be driven by the DUT,

wherein the obtaining of the timing and relation criteria is dependent on checking for

specific orderings or timings of packets for the testing events of the DUT (Col.2: 63 –

Col.3: 4). When a packet should be transmitted, how long it should take to transmit a

packet, or the relation of a packet to other packets are all encompassed anticipated

configurations of the timing and ordering of the events for the DUT testing. Thus, these

orderings also anticipate forcing the loops to drive the test packet in accordance with the

determined sequence (Col.3: 1-4).

As per claim 2:

Allingham teaches to allowing the drive loop to force the DUT includes obtaining

permission to drive the DUT (Col.6: 23-29).

As per claim 3:

The method of Allingham wherein determining when to expect a packet driven by

the DUT further includes determining permission to drive the DUT (Col.5: 54-59; Col.6:

23-29).

As per claim 4:

The DUT of Allingham is a bus bridge (Col.1: 32-34).

As per claim 5:

The DUT of Allingham can be a data switch (Col.1: 19-23).

As per claim 6:

The method of Allingham teaches to monitoring an output of the DUT,

determining whether a packet driven by the DUT is picked up by an expect loop, and

raising an error flag if the packet is not picked up by an expect loop (Col.5: 60-67).

As per claim 7:

The method of Allingham allows for bus communication of the expect and drive

loops over a bus (Fig.2) and monitors activity on the bus and raises a flag if the bus is idle

for more than a specified amount of time (Col.5: 54-59).

As per claim 8:

Allingham teaches to a hardware verification method that includes obtaining a set

of packets to be driven by a DUT, starting multiple drive loops that force the obtained

packets into the DUT, utilizing multiple expect loops wherein each expect loop

determines when a packet is expected to arrive as well as picking up said packet,

checking for all loops if the expected packet arrives within a specified time period and

raising a flag if the expected packet does not arrive within the expected time period, and

monitoring an output of the DUT, determining whether a packet driven by the DUT is

picked up by an expect loop, and raising an error flag if the packet is not picked up by an

expect loop (Fig.2; Fig.3; Col.4: 26-29, 40-42, 46-68; Col.5: 7-67). Moreover, Allingham

teaches specifically to obtaining timing criteria dependent on how long it should take to

transmit a packet (Col.2: 52-62). Allingham also suggests obtaining a set of timing and

relation criteria which determines a sequence in which the packets should be driven by

the DUT, wherein the obtaining of the timing and relation criteria is dependent on

checking for specific orderings or timings of packets for the testing events of the DUT

(Col.2: 63 – Col.3: 4). When a packet should be transmitted, how long it should take to transmit a packet, or the relation of a packet to other packets are all encompassed anticipated configurations of the timing and ordering of the events for the DUT testing. Thus, these orderings also anticipate forcing the loops to drive the test packet in accordance with the determined sequence (Col.3: 1-4).

As per claim 9:

Allingham teaches to allowing the drive loop to force the DUT includes obtaining permission to drive the DUT (Col.6: 23-29).

As per claim 10:

The method of Allingham wherein determining when to expect a packet driven by the DUT further includes determining permission to drive the DUT (Col.5: 54-59; Col.6: 23-29).

As per claim 11:

The DUT of Allingham is a bus bridge (Col.1: 32-34).

As per claim 12:

The DUT of Allingham can be a data switch (Col.1: 19-23).

As per claim 13:

The method of Allingham allows for bus communication of the expect and drive loops over a bus (Fig.2) and monitors activity on the bus and raises a flag if the bus is idle for more than a specified amount of time (Col.5: 54-59).

As per claim 14:

Claim 14 is the corresponding apparatus claim to method claim 1. As such,

analogous reasoning to that used in the rejection of claim 1 above can be further applied

in the rejection of claim 14.

As per claim 15:

Claim 15 is the corresponding apparatus claim to method claim 6. As such,

analogous reasoning to that used in the rejection of claim 6 above can be further applied

in the rejection of claim 15.

As per claim 16:

Allingham teaches to a controller that controls communication between drive

loops, expect loops, and the DUT (Fig.2).

As per claim 17:

Claim 17 is the corresponding apparatus claim to method claim 4. As such,

analogous reasoning to that used in the rejection of claim 4 above can be further applied

in the rejection of claim 17.

As per claim 18:

Claim 18 is the corresponding apparatus claim to method claim 5. As such,

analogous reasoning to that used in the rejection of claim 5 above can be further applied

in the rejection of claim 18.

As per claim 19:

The system of Allingham includes a bus that delivers the communication between
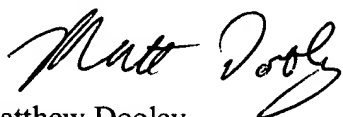
the loops and the DUT (Fig.2).

As per claim 20:

Claim 20 is the corresponding apparatus claim to method claim 7. As such,

analogous reasoning to that used in the rejection of claim 7 above can be further applied

in the rejection of claim 20.

Conclusion

4.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Matthew C. Dooley whose telephone number is (703) 306-5538.

The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew Dooley
Examiner AU 2133
05/17/04

ALBERT DECADY
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